Glossary of Polymorphic Communication Terms

1. Polymorphic Message
A message whose content does not reach a final state but evolves and changes over time. It is created using pointers to polymorphic content. It is not stored as the original message but is understood as its dynamic interpretation.

2. Original Message
The message in its original, unaltered form as created by the user. It serves as the source material for creating its polymorphic form.

3. Pointer
A reference to a source fragment of the original message within the polymorphic content.

4. Fragment
A part of the original message, such as a word, letter, character, or other logical unit.

5. Polymorphic Content
Any data field (a quantity of bytes) that exhibits entropy, i.e., random or pseudorandom change. It is divided into:

- **Natural Polymorphic Content:** Content that is not modified directly by users or the system operator. Its entropy arises naturally (e.g., a live webpage, sensor data, the WWW network).
- **Artificial Polymorphic Content:** Artificially created content where entropy is generated by external mechanisms (e.g., a special algorithm). It allows for targeted control of the polymorphic message's behavior, such as decay rate, change start time, etc.

6. Polymorphic Message Generation
The process of creating a polymorphic message occurs in three phases:

- **Mapping:** The original message is decomposed into fragments. These fragments are then transformed into pointers directed into the polymorphic content.
- **Storage:** The pointers are stored in a way that allows for future message reconstruction.
- **Reconstruction (Composition):** At the moment of reading, the message is reassembled using the pointers into its final form, which

reflects the current state of the polymorphic content. The resulting message is then delivered to both the author and the recipients.

7. Static Content
A data field (a quantity of bytes) that does not exhibit a change in entropy and remains unchanged over time.

8. Message Generation Time
The time interval from the start of mapping the original message to the completion of its reconstruction. The concept assumes that the entropy of the polymorphic content will be constant during this period. If a change occurs, the resulting polymorphic message will differ from the original intent.

9. Message Lifespan
The lifespan of a polymorphic message is directly dependent on the lifespan of the polymorphic content it points to. The message is derived from this content, and with its demise, the message loses meaning or ceases to exist entirely.

10. Shared Pointers
Pointers that can be used to create multiple polymorphic messages concurrently (in parallel generation time). Their purpose is to increase efficiency and reduce the time required to generate new messages, as identical fragments are not stored repeatedly.

11. Manipulated Polymorphic Message
A polymorphic message part of which is composed of pointers to static content. Since static content is immutable, this part of the message has a final state and does not change over time. Dynamic behavior (change over time) is therefore only exhibited by the part composed of pointers to polymorphic content.

12. Polymorphic Module
A standalone software component or service responsible for generating and processing polymorphic messages. It provides its functionality to other communication applications (such as mail clients, instant messaging, or web services) through a defined interface (API). It is responsible for all phases of the polymorphic message's lifecycle, including mapping, storage, and reconstruction.

13. Entropy of Polymorphic Content
The measure of disorder or randomness in the data of the polymorphic

content, which causes the content to change naturally over time. It is a key property that enables the existence of polymorphic messages.

14. Message Decay
The desired or expected change in the meaning of a polymorphic message due to changes in the underlying polymorphic content. It can be natural or controlled (in the case of artificial content).

15. Polymorphic Message Version
A specific instance of a polymorphic message at a specific point in time. Since the message changes, each reading (reconstruction) can be considered a different version.

17. Polymorphic Message Integrity
The system's ability to ensure that the message throughout its lifespan, and despite change, has not been intentionally altered by a foreign entity (e.g., an attacker), but only by the legitimate mechanisms of the polymorphic content.